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ABSTRACT

This study was designed to answer questions concerning how State-level efforts related to the development of vocational education curriculum materials should be conducted, by whom, and through what means. A review of relevant literature and materials was initiated, and questionnaires and interviews were used to gather additional information from local vocational directors, local administrators, vocational teacher educators, and State Board for Community Colleges and Occupational Education (SBCCOE) staff in Colorado. Tables supplement the findings, which are discussed under the following topics: State level curriculum materials development efforts; agencies responsible for vocational education curriculum materials development; importance of selected activities funded by the SBCCOE; importance of specific activities in any Colorado vocational education curriculum materials development effort; types of vocational education curriculum materials; agencies with primary responsibility for preparing specific products; individuals with primary responsibility for preparing specific products; importance of the audiences for whom vocational education curriculum materials should be developed; importance of curriculum materials development activities which should receive State funds if limited financial resources exist; and agencies which should serve as a centralized coordinating location. Conclusions and recommendations are presented along with the following implications: (1) Additional State level support should be made available to the curriculum materials development, (2) vocational educators must be organized into a cohesive support group, (3) a curriculum materials development system should be designed and implemented, and (4) education related to curriculum materials development is and will continue to be important. (SH)

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VOCATIONAL EDUCATORS' PERCEPTIONS

OF

CURRICULUM MATERIALS DEVELOPMENT

FINAL REPORT

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PREFACE

This document, Vocational Educator's Perceptions of Curriculum Materials Development: Final Report, was prepared to present the results of a study funded by the State Board for Community Colleges and Occupational Education (SBCCOE). A comparison of the procedures specified in the funded proposal, Developing the Colorado State Plan for Curriculum Materials Development, and those outlined in this report will reveal that many changes were made during the conduct of the study. These changes were made at the suggestion of members of the study advisory committee and certain SBCCOE personnel.

Prepared as an accompanying document to the Master Plan for Vocational Education Curriculum Materials Development, this report contains the findings derived from data provided by Colorado vocational educators. In addition, relevant conclusions and recommendations are presented.

ACKNOWLEDGMENTS

Appreciation is expressed to those persons who made the completion of this study possible:

To Mr. Ray Heley, Principal Investigator, for his efforts in collecting and analyzing the necessary data and preparing portions of this report.

To the vocational educators and industry personnel who furnished the required data.

To the members of the committee who provided guidance throughout the conduct of the study.

And to Ms. Linda Dunham who performed the clerical duties required in the conduct of the study.

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INTRODUCTION

Curriculum materials were recognized as being important to the success of Colorado vocational education programs. Because of this, it was believed that greater consideration should be given to their development. To facilitate statewide vocational education curriculum materials development efforts, it was proposed that an attempt be made to encourage, coordinate, and implement activities which would help develop as efficiently and effectively as possible the desired types of curriculum materials for use in Colorado vocational education programs.

Facilitating the development of curriculum materials in Colorado was perceived as necessitating that a more realistic picture of the resources being devoted to such efforts be gained, that a systematic development procedure be implemented to reduce the duplication of developmental efforts, that the efficient and effective utilization of resources be promoted, and that the accessibility to developed materials be improved. A first step toward such facilitation was envisioned as the development of a long-range state plan for curriculum materials development.

PROBLEM

Because curriculum materials were recognized as being important to the success of Colorado vocational education programs, it was believed

that persons at all levels of involvement should have input into the curriculum materials development processes. Such input was considered necessary to aid one in identifying the curriculum concepts currently perceived as important by those persons concerned with vocational education programs throughout the State. Thus this study was designed to answer questions such as: How should state-level efforts related to the development of vocational education curriculum materials be conducted? By whom? Through what means?

OBJECTIVES

Specific objectives considered necessary for accomplishing the major purpose of this study were:

1. To determine the characteristics of plans for state-level curriculum materials development efforts throughout the nation.
2. To determine, as perceived by vocational educators, the importance of curriculum materials development activities when compared to other selected activities and/or services funded by the State Board for Community Colleges and Occupational Education.
3. To identify the developmental roles (library, clearinghouse, production, establishing need, etc.) which might best be assigned to potential participants as perceived by vocational educators.
4. To identify the components/functions of a curriculum materials development system for implementation in Colorado as perceived by vocational educators.
5. To determine the types of curriculum materials as perceived by vocational educators which should be provided for use in Colorado.

PROCEDURES

To obtain the data necessary for accomplishing the objectives specified above, the following steps were completed.

1. Mr. Ray Heley was employed as principal investigator for this study, effective September 1, 1975.

2. A review of relevant literature and materials was then initiated. To facilitate the review process, references believed to be of value in curriculum materials development were identified through a computer-conducted search of Educational Resources Information Center (ERIC) publications including:

   Abstracts of Instructional Materials in Vocational and Technical Information (AIM)

   Abstracts of Research and Related Materials in Vocational and Technical Education (ARM)

   Research in Education (RIE)

   In addition, curriculum materials development guidelines from industry and the military were secured and reviewed.

3. As part of the review process, a letter dated September 23, 1975 was sent to the head vocational educator for each of the fifty states, the District of Columbia, the Virgin Islands, and Puerto Rico. This individual was asked to provide or to ask the person on his staff who was most familiar with the development of curriculum materials to provide the investigators with a copy of that state's plan or guidelines for curriculum materials development activities.

   Follow-up letters were sent to non-respondents on October 14, 1975 and October 30, 1975. Materials were received from forty-eight of the individuals contacted for a 90 percent response. The last of these materials was received on January 13, 1976. Copies of the various letters are included in Appendix A.

4. A state-level curriculum materials development advisory committee was formed to aid in giving direction to the study. Using selected criteria, persons with an interest in vocational education curriculum materials development in Colorado were selected to serve as members of the committee. Members appointed to serve on the committee are identified in Appendix B. A copy of the letter of appointment dated October 7, 1975 which was sent to each member is also included therein.

Committee meetings were held on October 21, 1975; January 8, 1976; February 5, 1976; February 27, 1976; March 12, 1976; and July 29, 1976 to discuss the results of and future activities related to the study.

5. Input relative to state-level curriculum materials development was solicited from the facilitators and participants involved in the Curriculum Materials Development Workshop held on the Colorado State University campus November 17 through November 21, 1975.

   Among the facilitators providing input were Dr. James E. Wall, Assistant Dean, Research and Development, College of Education, Mississippi State University; Dr. Don Eshelby, RCU Director, North Dakota Board for Vocational and Technical Education; and Mr. Amon Herd, Director, Instructional Materials Laboratory, University of Missouri--Columbia.

6. Five groups of individuals associated with vocational education in Colorado were identified as sources from which data regarding their perceptions of curriculum materials development were to be secured. The groups were vocational teachers; local directors of vocational education; local administrators assigned responsibility for vocational education programs where no local director was employed; vocational teacher educators; and SBCCOE staff members who were responsible for curriculum materials development and/or vocational education program supervision.

7. Using information secured through the review of literature, from members of the advisory committee, from the Workshop participants and facilitators, from selected vocational teachers; and from consultants such as Dr. James Zancanella, Dean, Vocational-Technical Studies and Community College Relations, University of Wyoming; Dr. Harold Wallace, Coordinator of Research, Department of Vocational Education, Colorado State University; and Dr. William D. Woolf, Director, Occupational Education Division, Colorado State Board for Community Colleges and Occupational Education; a questionnaire (Appendix C) was developed to be used in collecting data from Colorado vocational educators.

8. Since the questionnaire was not available for distribution until late in the 1975-1976 school year, it was decided that the three major groups to be surveyed--vocational teachers, local vocational directors, and local administrators assigned responsibility for vocational education programs where no local director was employed--would be asked to complete questionnaires provided via two means--through the mail and in an interview situation. It was believed this would enable the investigators to compare data collected from the two groups in an effort to demonstrate whether the data collected via the

two means differ. This was considered to be important as the finalized version of the questionnaire was not tested prior to distribution. In an interview situation, it was believed the interviewee could ask relevant questions and receive appropriate responses to clarify any problems which might affect the validity of the instrument.

Individuals in the remaining two groups--vocational teacher educators and SBCCOE staff--were to receive their questionnaires via mail.

9. After conferring with Drs. Harry Huffman and Harold Wallace, Department of Vocational Education, Colorado State University, and Mr. James R. ZumBrunnen, Associate Director, Statistical Analysis Unit, Colorado State University, it was decided that a sample of approximateiy 13 percent or 300 of the 2,300 full-time vocational teachers identified by the SBCCOE management information system personnel would be surveyed through use of a mail questionnaire.

   To ensure that vocational teachers from each service area (agriculture, distributive education, co-op "G," etc.) and from each educational level (secondary, post-secondary), and a combination of secondary/post-secondary would be included in the sample, teachers to be surveyed were randomly selected on the basis of specified data using a table of random numbers. The selection process was designed so that the number of teachers selected from each division would equal approximately 13 percent of the total teachers in that division.

   Fifty additional teachers were identified on the basis of service area and educational level to complete the questionnaire in an interview situation. About 2 percent of the teachers in any one division were selected to be interviewed.

10. One hundred percent of the individuals in the other four groups--local vocational directors, local administrators, vocational teacher educators, and SBCCOE staff--were to be asked to complete the questionnaire. All individuals except approximately 13 percent of the local vocational directors and the local administrators were to be provided questionnaires via mail. About 13 percent of the local directors and the local administrators were randomly selected to be interviewed.

11. Mail questionnaires were sent to the selected teachers, local directors, local administrators, teacher educators and SBCCOE staff on April 16, 1976. Follow-up letters (see Appendix C) were mailed to those individuals who had not responded on April 30, 1976 and May 14, 1976. A telephone follow-up procedure was inititated on May 24, 1976 and continued until the cutoff date for the receipt of data on June 18, 1976.

Seven completed questionnaires were received after this date, but the data were not reflected in the analysis. The numbers of persons receiving mail questionnaires, the numbers returning completed questionnaires, and the percentages of returns are shown in Table 1.

12. Interviews with the selected individuals were initiated on April 20, 1976 and were completed on June 14, 1976. The number of persons completing questionnaires in an interview situation are shown in Table 2. A copy of the form letter used to schedule interviews is included in Appendix C.

13. The questionnaire used in this study was designed so computer data cards could be used in data analysis. After being coded and keypunched into the cards, the responses were compiled through the faciliites of the Colorado State University Computer Center. The Center's Control Data Corporation (CDC) 6400 processor was used to complete frequency counts, response percentages, and means for the ratings of the various items. Using the computer output, specific items were then ranked according to the computed means.

    One should note that the computed percentages in any one situation may not equal 100 percent when totaled. This resulted from the percentages being truncated and/or rounded off.

14. After the collected data were tabulated and the various items ranked, the Spearman rank correlation coefficient (rho) and/or Kendall's coefficient of concordance (W) were used to determine the degree of association among the rankings.[1] The results of these statistical tests were then used to draw conclusions concerning the relationship between rankings based upon responses from the various groups surveyed--primarily the mail and interview respondents.

    When rho or W was calculated, any rankings assigned to "other" in the tables were disregarded. This procedure was followed because of the relatively small number of individuals ranking this category.

    Each time such a comparison was made the following hypotheses were considered:

    H_0: The rankings of the items are unrelated.

    H_A: The rankings of the items are related.

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[1] Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company, Incorporated, 1956), pp. 202-238.

TABLE 1

PERSONS RESPONDING TO THE MAIL QUESTIONNAIRE[a]

CATEGORIES	NUMBER BY EDUCATIONAL LEVEL						TOTALS		
	Secondary		Post-secondary		Secondary/ Post-secondary				
	Mailed	Returned	Mailed	Returned	Mailed	Returned	Mailed	Returned	Percent Returned
Vocational Teachers									
Agriculture	14	9	4	2	X	X	18	11	66.1
Distributive Education	11	7	4	2	1	0	16	9	56.3
Health Occupations	3	2	17	10	1	1	21	13	61.9
Home Economics (consumer)	37	24	X	X	X	X	37	24	64.9
Home Economics (wage earning)	7	4	1	1	X	X	8	5	62.5
Business and Office	64	47	23	8	X	X	87	55	63.2
Technical Education	10	7	20	10	X	X	30	17	56.7
Trade and Industrial	48	32	19	15	7	4	74	51	68.9
Co-op "G"	6	5	X	X	1	1	7	6	85.7
Subtotal	200	137	88	48	10	6	298	191	64.1
Local Vocational Directors	61	53	23	20	12	11	96	84	87.5
Local Administrators (other than vocational directors)	122	79	X	X	X	X	122	79	64.8
Teacher Educators	X	X	X	X	X	X	42	35	83.3
SBCCOE Staff	X	X	X	X	X	X	28	24	85.7
Subtotal	183	132	23	20	12	11	288	222	77.1
TOTAL	383	269	111	68	22	17	586	413	70.5

[a]X indicates no value

TABLE 2

PERSONS COMPLETING THE QUESTIONNAIRE

IN AN INTERVIEW SITUATION[a]

CATEGORIES	NUMBER BY EDUCATIONAL LEVEL			TOTALS
	Secondary	Post/secondary	Secondary/ Post/secondary	
Vocational Teachers				
Agriculture	2	1	1	4
Distributive Education	2	1	X	3
Health Occupations	X	3	X	3
Home Economics (consumer)	5	1	X	6
Home Economics (wage earning)	1	1	X	2
Business and Office	8	5	1	14
Technical Education	2	2	1	5
Trade and Industrial	8	3	1	12
Co-op "G"	1	X	X	1
Subtotal	29	17	4	50
Local Vocational Directors	9	3	2	14
Local Administrators (other than vocational directors)	20	X	X	20
Subtotal	29	3	2	34
TOTAL	58	20	6	84

[a]X indicates no value

The significance of any observed value of rho or *W* was determined by using the procedures recommended by Siegel.[2] A positive value of rho or *W* which was found to be significant at the .05 level was interpreted as meaning the groups whose rankings were involved had applied essentially equivalent importance to the items under consideration. While this significant value of rho or *W* did not mean that the rankings observed were correct, it was interpreted as signifying agreement between the groups whose rankings were being considered.

FINDINGS

State-level curriculum materials development efforts

Information received from head vocational educators or their designated representatives revealed that some political entities had done little in planning for vocational education curriculum materials development while others had attempted to systematize such developmental activities. Two states--Kentucky and Ohio--have accomplished a great deal in this area. One state, New Mexico, evidently has received a legislative mandate to produce a given number of curriculum publications annually.

A synopsis of the information provided is presented in the following statements:

1. Information from eighteen of the political entities was considered to be of great value in developing Colorado's Master Plan for Vocational Education Curriculum Materials Development.

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[2] Ibid.

2. Eight of the eighteen political entities referred to above have formalized their curriculum materials development activities and offer printed booklets or other materials describing their processes.

3. All states are associated with the National Network for Curriculum Coordination in Vocational and Technical Education, though some states are more closely associated with the Network than others.

4. Some states are associated with other states in volunteer consortiums such as the Vocational-Technical Education Consortium of States or the Mid-America Vocational Curriculum Consortium where all or a part of those state's major curriculum materials development efforts take place.

5. Legislation in each state appears to influence the extent to which a local school district or a department in the state government has responsibility for curriculum materials development activities.

6. In those political entities where a systems approach to curriculum materials development has been initiated, provision has been made for teachers and industry personnel to have input into the system by serving on committees or in other means.

7. Personnel in a few of the political entities have attempted to establish a system for setting curriculum materials development priorities. However, it appears that no formalized systems have been established. The setting of such priorities was generally assigned to an individual or a committee.

8. In addition to establishing guidelines, personnel in some political entities have prepared models or specified operational procedures for making application for curriculum funds.

9. Information in materials from several political entities indicates that an emphasis is being placed on the development of competency-based curriculum materials and on the provision of an individualized education.

10. Components of the several curriculum materials development systems which were described in the provided materials were very similar. All of the systems' components reflect those which have been used by military personnel for many years.

Agencies responsible for vocational education curriculum materials development

When asked to rank specific agencies according to the responsibility each should have for vocational education curriculum materials development in Colorado, the study participants responded as indicated in Table 3. While "local school district or institution" was ranked number one and "State Board for Community Collegea and Occupational Education" number two, it should be noted that the difference between the mean ratings of the two agencies was only .074. Because of this relatively small difference, it was concluded that these two agencies should accept a joint responsibility for such activities.

It should also be recognized that while "other" is ranked fourth, only sixty-five respondents ranked this area. Too, a number of different agencies were included in this category. Because of these conditions, "other" was not considered a viable alternative.

Since the significance of Kendall's coefficient of concordance (W) could not readily be interpreted for this table, a Spearman rank correlation coefficient (r_s) was calculated for each pair of responses. The resulting values were each significant at the .05 level. On this basis, the null hypothesis of no relationship between the rankings was rejected.

Among the various groups whose members responded, the following conditions were considered to be of interest.

1. The "local school district or institution" was ranked number one (having the greatest responsibility for curriculum materials development):
    a. By 44.7 percent of the vocational teachers;
    b. By 49.5 percent of the combined local director and local administrator respondents;

TABLE 3

AGENCIES RESPONSIBLE FOR CURRICULUM MATERIALS DEVELOPMENT

AGENCY	TOTAL RESPONSES			MAIL RESPONSES			INTERVIEW RESPONSES		
	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]
a. Local school district or institution	488	1.932	1	404	1.938	1	84	1.917	1
b. State Board for Community Colleges and Occupational Education (SBCCOE)	485	2.006	2	401	1.985	2	84	2.107	2
c. Teacher education institutions	469	2.424	3	388	2.421	3	81	2.432	3
d. Other[b]	66	3.015	4	50	3.082	4	16	3.000	4
e. United States Office of Education (USOE)	436	3.759	5	363	3.765	5	73	3.726	5

Kendall's coefficient of concordance, W, could not be interpreted for this table but the Spearman rank correlation coefficient was calculated for all sets of rankings and r_s was found to equal 1.[c]

[a]The agency with the lowest mean was ranked number one, etc.

[b]Respondents listed such agencies as business, industry, teacher organizations, state licensing boards and advisory boards.

[c]Significant at the .05 level

c. By 25.7 percent of the teacher educators; and
d. By 30.4 percent of the SBCCOE staff

2. The SBCCOE was ranked number one by 52.2 percent of the SBCCOE staff.

3. About equal percentages of the teacher educators ranked the "local school district or institution," "SBCCOE," and "teacher education institutions" as number one in curriculum materials development.

4. Approximately 40 percent of the teacher educators ranked the "local school district or institution" as number three among the specified agencies.

Importance of selected activities or services funded by the SBCCOE

Study participants responded as indicated in Table 4 when asked to rank selected activities or services funded by the SBCCOE. Note that "local program support" was ranked number one with a relatively low mean while "local program equipment purchases" and "curriculum materials development" were ranked number two and three, respectively, with only a .143 difference between the mean ratings of the two items. Generally speaking, those activities or services with the greatest impact on local programs were ranked of highest importance while those with the least impact were ranked of lower importance.

When Kendall's coefficient of concordance was calculated for the rankings, W was found to have a value of .980 which was significant at the .001 level. This indicated that a high positive association existed between the rankings.

A Spearman rank correlation coefficient was then calculated between the mail response and interview response rankings. Rho's value was found to be .985 which was significant at the .01 level. Because of this, it was concluded that the response rankings were closely associated.

TABLE 4

IMPORTANCE OF SELECTED ACTIVITIES AND SERVICES FUNDED BY THE SBCCOE

ACTIVITIES/SERVICES	TOTAL RESPONSES			MAIL RESPONSES			INTERVIEW RESPONSES		
	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]
Local program support (instructional salaries and supplies)	474	4.511	1	392	4.512	1	82	3.537	2
Local program equipment purchases	469	6.175	2	389	6.131	2	80	5.887	3
Curriculum materials development	471	6.318	3	390	6.321	3	81	5.975	4
Local program planning assistance	464	6.700	4	386	6.709	4	78	6.628	5
Other[b]	20	7.150	5	18	7.667	5	2	2.500	1
State sponsored inservice training and workshops	469	8.102	6	388	7.886	6	81	8.654	6
Teacher education services	465	8.561	7	385	8.297	7	80	9.225	9
Local program supervision and/or administration	462	9.184	8	382	9.092	8	80	9.175	8
Facilities planning assistance	466	9.504	9	384	9.700	11	82	8.732	7
Career education	467	9.552	10	387	9.495	9	80	9.762	11
Job development services	460	9.737	11	379	9.616	10	81	9.593	10
Adult education	463	9.786	12	382	9.709	12	81	9.963	12
State program supervision	460	10.333	13	380	10.182	13	80	10.412	13
Management information services	459	11.342	14	379	11.206	14	80	11.813	16
Research	458	11.655	15	378	11.690	16	80	11.225	14
State program advisory committees	461	11.848	16	381	11.703	17	80	12.063	17
Vocational credentialing service	466	11.863	17	385	11.771	18	81	11.407	15
Youth organization activities	460	11.936	18	380	11.662	15	80	12.400	18
State sponsored team review of local programs	451	12.514	19	372	12.178	19	79	13.418	19

Kendall's coefficient of concordance: W = .980[c]

[a]The activity or service with the lowest mean was ranked number one, etc.

[b]Respondents listed such services as: area school coordination; recommended teacher/student ratio; service to administrators; and lobbying.

[c]Significant at the .001 level

Since responses to the questionnaire items had been received from ninety-eight local vocational directors and ninety-nine local administrators other than vocational directors who might view funded activities and services differently from members of the other respondent groups, it was decided that the responses of these groups should be considered separately from the total responses. The responses received from these groups were summarized in Table 5. Note that the members of these groups tended to place greater importance on those items influencing local programs than did the total group. Though there are many differences in the responses between the two groups, the most significant include the facts that the local directors placed the greater emphasis on "teacher education services," "adult education," and "management information services" while the local administrators placed the greater emphasis on "career education," "facilities planning assistance," and "state program supervision."

When the value of rho was computed for the rankings by the local directors and local administrators, it was found to be significant at the .01 level. Because of this, the rankings of the two groups were considered to be closely related.

The rankings of the local directors and the local administrators were then compared to the total responses rankings in Table 4 using Kendall's coefficient of concordance. *W* was found to have a value of .945 which was significant at the .001 level. This indicated that the three rankings were associated, thus permitting rejection of the null hypothesis.

TABLE 5

IMPORTANCE OF SELECTED ACTIVITIES AND SERVICES FUNDED BY THE SBCCOE

AS PERCEIVED BY LOCAL DIRECTORS AND ADMINISTRATORS

ACTIVITIES/SERVICES	LOCAL DIRECTORS			LOCAL ADMINISTRATORS		
	N	Mean	Rank[a]	N	Mean	Rank[a]
Local program support (instructional salaries and supplies)	89	3.213	1	98	2.969	1
Local program equipment purchases	90	5.822	2	96	4.552	2
Local program planning assistance	88	6.250	3	97	5.340	3
Curriculum materials development	89	6.775	4	98	6.204	4
Local program supervision and/or administration	87	7.862	5	97	8.340	5
State sponsored inservice training and workshops	89	8.337	6	96	8.542	6
Teacher education services	87	8.644	7	97	10.289	11
Job development services	86	9.000	8	96	10.073	9
Adult education	88	9.511	9	98	10.439	12
Management information services	88	9.818	10	96	11.625	13
Facilities planning assistance	84	9.833	11	98	9.520	8
State program supervision	86	9.919	12	96	10.292	10
Career education	90	11.411	13	97	8.907	7
Research	84	12.179	14	96	12.031	16
State program advisory committees	86	12.337	15	97	12.495	18
Youth organization activities	88	12.420	16	95	12.347	17
Vocational credentialing service	88	12.659	17	97	11.928	15
State sponsored team review of local programs	85	12.671	18	95	11.663	14

Spearman Rank Correlation Coefficient: $r_s = .878$[b]

[a] The activity or service with the lowest mean was ranked number one, etc.

[b] Significant at the .01 level

The following factors were considered to be of interest in considering the various groups whose members responded:

1. The funding of "career education" was ranked as number one by 19.6 percent of the vocational teachers while 52.6 percent of the SBCCOE staff ranked the funding of "career education" as either number seventeen or number eighteen.

2. The funding of "career education" was ranked as number eighteen by 38 percent of the teacher educators.

3. About 58 percent of the combined local directors and administrators ranked the funding of "local program support" as number one whereas 30 percent of the teachers, 32 percent of the teacher educators, and 26 percent of the SBCCOE staff so ranked "local program support."

Importance of specific activities in any Colorado vocational education curriculum materials development effort

A summary of the responses received when the study participants were asked to indicate which of specific activities were important to the local school district or institution as part of any statewide vocational education curriculum materials development effort in Colorado is presented in Table 6. While over 65 percent of the respondents indicated each of the activities should be included, it was interesting to note that "preparing a task analysis of an occupation" and "pilot testing adopted curriculum materials" were considered important by less than 69 percent of the respondents. Of interest to the investigators were that only 80 percent of the SBCCOE staff and 55.9 percent of the teacher educators indicated that "preparing a task analysis of an occupation" was important to the local school district or institution.

In Table 7, a summary is presented of the study participants' responses when they were asked to rank selected curriculum materials

TABLE 6

ACTIVITIES IMPORTANT IN ANY COLORADO VOCATIONAL EDUCATION

CURRICULUM MATERIALS DEVELOPMENT EFFORT[a]

ACTIVITIES[b]	TOTAL RESPONSES				MAIL RESPONSES				INTERVIEW RESPONSES			
	N	Yes %	Undecided %	No %	N	Yes %	Undecided %	No %	N	Yes %	Undecided %	No %
Adapting already prepared materials	471	84.9	8.3	6.8	388	84.2	8.8	7.0	83	89.2	4.8	6.0
Distributing curriculum materials	475	91.6	5.1	3.4	393	91.8	4.6	3.6	82	90.2	7.3	2.4
Evaluating curriculum materials	473	83.9	10.8	5.3	391	83.1	10.8	6.2	82	87.8	11.0	1.2
Facilitating feedback	470	85.1	11.9	3.0	387	85.5	11.1	3.4	83	83.1	15.7	1.2
Identifying already prepared	477	89.3	6.7	4.0	394	89.3	6.6	4.1	83	89.2	7.2	3.6
Identifying performance objectives	475	73.9	14.9	11.2	392	72.1	16.1	11.8	83	81.9	9.6	8.4
Pilot testing	470	68.5	22.6	8.9	397	67.4	22.8	9.8	83	73.5	21.7	4.8
Preparing a list . . . . needs	473	78.6	14.0	7.4	391	79.2	13.1	7.7	82	75.6	18.3	6.1
Preparing a priority list	472	72.2	17.6	10.2	390	74.6	15.4	10.5	82	63.4	28.0	8.5
Preparing a task analysis	470	65.1	20.4	14.5	387	63.2	21.2	15.5	83	74.7	15.7	9.6
Preparing new materials	468	80.3	10.9	8.3	385	86.5	10.7	8.9	83	81.9	12.0	6.0
Other[c]	6	83.3	16.7	X	6	83.3	16.7	X	X	X	X	X

[a] X indicates no value

[b] Full titles of activities may be found in question 3 of the questionnaire, Appendix C.

[c] Respondents listed such activities as coordinating with industry and working with members of advisory committees.

TABLE 7

IMPORTANCE OF SELECTED CURRICULUM MATERIALS DEVELOPMENT ACTIVITIES[a]

ACTIVITIES[b]	TOTAL RESPONSES			MAIL RESPONSES			INTERVIEW RESPONSES		
	N	Mean	Rank[c]	N	Mean	Rank[c]	N	Mean	Rank[c]
Identifying already prepared . . .	450	4.344	1	371	4.316	1	79	4.494	1
Other[d]	8	4.375	2	8	4.375	2	X	X	X
Adapting already prepared	438	4.760	3	358	4.683	4	80	5.025	2
Evaluating curriculum materials .	447	5.284	4	369	5.318	5	78	5.141	3
Distributing curriculum materials	445	5.284	5	367	4.634	3	78	5.372	4
Preparing a list . . . . needs . .	443	5.621	6	367	5.645	7	76	5.500	5
Preparing a priority list	436	5.677	7	362	5.640	6	74	5.919	7
Identifying performance objectives	437	5.817	8	359	5.813	8	78	5.808	6
Preparing new . . . . . materials	418	6.383	9	341	6.453	9	77	6.130	8
Facilitating feedback	440	6.823	10	362	6.778	10	78	6.987	11
Preparing a task analysis	426	7.157	11	349	7.210	11	77	6.896	9
Pilot testing	431	7.216	12	352	7.276	12	79	6.949	10

Kendall's Coefficient of Concordance: $W = .966$[e]

[a] X indicates no value

[b] Full titles of activities may be found in question 3 of the questionnaire, Appendix C.

[c] The activity with the lowest mean was ranked number one, etc.

[d] Respondents listed such activities as coordinating with industry and working with members of advisory committees.

[e] Significant at the .01 level

development activities as to their importance to the local school district or institution. While activities such as "identifying already prepared curriculum materials" and "adapting already prepared curriculum materials for use in Colorado" were considered to be very important, less emphasis was directed toward "preparing a task analysis of an occupation" and "pilot testing adopted materials."

Though "other" is ranked number two based upon the calculated means, note that only eight respondents ranked this activity. Too, at least two different types of activities were included in this category. Because of these factors, "other" was not considered as a viable activity among those identified in this table.

The association of the three rankings in Table 7 was tested by calculating Kendall's coefficient of concordance. This resulted in a *W* value of .966 which was significant at the .01 level. Because of this, the rankings were considered to be closely associated with the activities appearing high in one rank appearing relatively high in the other.

The association between the mail response and interview response rankings was checked further by computing a rho value. In this case, rho was found to equal .918 which was significant at the .01 level.

Types of vocational education curriculum materials

When asked to rank by importance specific types of vocational education curriculum materials which should be developed for use in Colorado, the study participants responded as summarized in Table 8. While "audiovisual materials," "printed materials for teachers," and "printed materials for learners" were ranked one, two, and three,

TABLE 8

TYPES OF VOCATIONAL EDUCATION CURRICULUM MATERIALS

MATERIAL TYPES	TOTAL RESPONSES			MAIL RESPONSES			INTERVIEW RESPONSES		
	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]
Audiovisual materials	477	2.277	1	394	2.270	1	83	2.325	2
Printed materials for teachers	477	2.482	2	393	2.520	2	84	2.298	1
Printed materials for learners	478	2.623	3	394	2.682	3	84	2.333	3
Others[b]	21	3.095	4	18	2.889	4	3	4.333	5
Visual materials	468	3.368	5	385	3.320	5	83	3.602	4
Audio materials	467	4.192	6	385	4.156	6	82	4.354	6

Kendall's Coefficient of Concordance: $W = .956$[c]

[a]The activity with the lowest mean was ranked number one, etc.

[b]Respondents listed hands-on materials, a combination of those listed, speaker lists, materials from manufacturers, field trips, and industry materials.

[c]Significant at the .01 level

respectively, the overall mean difference was only .256. Because of this, there did not appear to be general agreement as to the type of material to be emphasized. This is reflected in the fact that only 48.5 percent of the teacher educators and about 33 percent of the SBCCOE staff, local directors and administrators, and teachers ranked "printed materials for teachers" number one.

There was general agreement that "audio materials" or "visual materials" were of lesser importance than the other types. The category "other" is considered to be insignificant as it was ranked by only twenty-one respondents and because several different types of items were identified in this category.

The overall agreement of the rankings in Table 8 was investigated through use of Kendall's coefficient of concordance. The value of W was found to be significant at the .01 level. This revealed a high overall agreement among the respondents rankings and resulted in rejection of the null hypothesis of no relationship.

The relationship of the mail response rankings and the interview response rankings was further investigated by determining the value of rho. A positive rho value of .9 was found to be significant at the .05 level. Thus, the types of curriculum materials which individuals in one group believed should be emphasized were emphasized by individuals in the second group.

Agencies with primary responsibility for preparing specific products

Study participants were asked to indicate which agency should have primary responsibility for preparing specific curriculum materials development products. Their responses are summarized in Table 9 and

TABLE 9

AGENCIES WITH PRIMARY RESPONSIBILITY FOR PREPARING SPECIFIC PRODUCTS[a]

PRODUCTS[b]	TOTAL RESPONSES						MAIL RESPONSES						INTERVIEW RESPONSES					
	N	LSD[c] %	SBCCOE %	Teacher Ed %	USOE %	Other[d] %	N	LSD[c] %	SBCCOE %	Teacher Ed %	USOE %	Other[d] %	N	LSD[c] %	SBCCOE %	Teacher Ed %	USOE %	Other[d] %
Adaptions of already prepared	479	42.0	25.2	9.1	0.1	23.6	395	40.9	22.9	8.3	X	27.9	84	47.6	36.9	13.1	X	2.4
Evaluation of adopted	480	46.7	19.4	7.5	0.4	26.2	396	44.1	17.5	7.1	0.3	31.1	84	59.5	28.6	9.6	X	2.4
Evaluation of distribution	468	22.6	47.9	7.0	1.5	20.9	387	21.8	44.4	7.8	1.3	24.9	81	27.2	65.4	3.7	2.4	1.2
Evaluation of feedback	474	20.0	45.2	9.9	1.2	23.6	393	19.9	40.8	10.2	1.3	27.8	81	21.0	66.7	8.7	1.2	2.5
List of already prepared	474	12.0	44.0	16.8	4.3	22.8	391	11.3	41.2	16.2	4.1	27.2	83	15.7	57.9	20.5	4.8	1.2
List of . . . . needs	475	44.8	22.1	9.3	1.5	22.3	391	43.3	19.7	8.8	1.8	26.4	84	52.4	33.4	11.9	X	2.4
List or performance	477	43.4	19.5	10.3	1.4	25.4	394	41.7	17.9	9.9	1.5	29.0	83	51.8	27.7	12.0	1.2	7.2
Newly prepared	476	18.3	31.1	20.1	2.3	28.2	393	16.1	29.3	19.7	2.3	32.7	83	28.9	39.7	22.9	2.4	6.0
Priority list of . . . needs	472	40.5	28.2	7.4	0.8	23.1	390	36.5	27.3	7.7	1.0	27.5	82	59.8	33.0	6.0	X	1.2
Results of pilot testing	473	14.0	44.7	15.6	1.9	23.9	389	14.2	41.0	14.9	1.8	28.1	84	13.1	61.9	19.0	2.4	3.6
Task analysis.	469	22.8	31.3	11.7	9.5	24.5	389	21.6	29.2	11.3	9.6	28.4	80	28.8	42.5	13.8	10.0	5.0

[a] X indicates no value

[b] Full titles of products may be found in question 5 of the questionnaire, Appendix C.

[c] LSD--local school district

[d] Responses summarized in this category indicated that multiple agencies were responsible.

generally indicate that such responsibilities rest with the local school district and the SBCCOE while the United States Office of Education (USOE) is viewed as an agency with little responsibility in this area.

The respondents indicated that the local school district should generally be responsible for "adaptations of already prepared curriculum materials for use in Colorado," "evaluation of adopted curriculum materials," "list of curriculum materials needs," "list of performance objectives," and "priority list of curriculum materials needs." On the other hand, the respondents indicated that the SBCCOE should be responsible for "evaluation of distribution process," "evaluation of feedback," "list of already prepared curriculum materials," "newly prepared curriculum materials," "results of pilot testing," and "task analysis of an occupation."

The mail and interview responses appear to differ a great deal. The major reason for this, in the opinion of the investigators, is that the number of respondents indicating "other" was reduced in interview situations.

Individuals with primary responsibility for preparing specific products

In addition to asking the respondents which agency was primarily responsible for preparing specific curriculum materials development products, they were asked which category of individuals should have that responsibility. Summaries of the study participants' responses are presented in Tables 10, 11, and 12.

TABLE 10

INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR PREPARING SPECIFIC PRODUCTS[a]

PRODUCTS[b]	TOTAL RESPONSES										
	N	LOCAL SCHOOL DISTRICT			SBCCOE		TEACHER EDUCATION INSTITUTION		USOE		OTHER[c]
		Administrator or Supervisor	Curriculum Specialist	Vocational Teacher	Curriculum Specialist	Program Supervisor	Curriculum Specialist	Teacher Educator	Curriculum Specialist	Program Specialist	
Adaptions of already prepared .	479		6.5	31.5	19.6	5.4	5.6				23.6
Evaluation of adapted	480	5.6	8.5	32.1	8.8	10.2	5.8				26.2
Evaluation of distribution . .	468	8.3		10.0	15.0	32.3					20.9
Evaluation of feedback	474	7.0	7.0	6.1	16.7	27.6	6.1				23.6
List of already prepared . . .	474				29.7	14.3	13.7				22.8
List of . . . needs	475		7.8	32.4	12.8	9.3	7.4				22.3
List of performance	477		6.1	33.5	10.5	8.6	6.1				25.4
Newly prepared	476		6.5	9.5	23.1	8.0	14.9				28.2
Priority list of . . . needs .	472	6.4	8.5	25.0	15.9	11.7	5.3				23.1
Results of pilot testing . . .	473			5.3	25.2	19.5	11.2				23.9
Task analysis	469			15.3	12.9	16.1	6.0	5.0		5.2	24.5

[a]Only those individuals identified by at least 5 percent of the respondents are associated with specific products.

[b]Full titles of products may be found in question 5 of the questionnaire, Appendix C.

[c]Responses summarized in this category indicated that multiple agencies were responsible.

TABLE 11

INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR PREPARING SPECIFIC PRODUCTS ACCORDING TO MAIL RESPONSES[a]

PRODUCTS[b]	MAIL RESPONSES										
	N	LOCAL SCHOOL DISTRICT			SBCCOE		TEACHER EDUCATION INSTITUTION		USOE		OTHER[c]
		Administrator or Supervisor	Curriculum Specialist	Vocational Teacher	Curriculum Specialist	Program Supervisor	Curriculum Specialist	Teacher Educator	Curriculum Specialist	Program Specialist	
Adaptions of already prepared .	395		5.8	31.5	18.5		5.3				27.9
Evaluation of adapted	396		7.8	31.1	7.6	9.4	5.8				31.1
Evaluation of distribution . .	387	7.3		9.6	13.5	30.1	5.7				24.9
Evaluation of feedback	393	6.9	7.1	5.9	14.3	25.5	6.1				27.8
List of already prepared . . .	391				27.4	13.8	13.6				27.2
List of . . . . . needs . . .	391		7.5	29.1	11.2	7.5	6.3				25.0
List of performance	394		5.1	32.6	8.4	9.2	5.6				29.0
Newly prepared	393		5.6	8.4	21.4	7.9	15.1				32.7
Priority list of . . . . needs	390	6.9	7.5	21.3	15.7	10.8	5.9				27.5
Results of pilot testing . . .	389			5.2	22.7	18.3	11.3				28.1
Task analysis	389			16.0	12.4	16.0	5.9	5.4		5.7	28.4

[a]Only those individuals identified by at least 5 percent of the respondents are associated with specific products.

[b]Full titles of products may be found in question 5 of the questionnaire, Appendix C.

[c]Responses summarized in this category indicated that multiple agencies were responsible.

TABLE 12

INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR PREPARING SPECIFIC PRODUCTS ACCORDING TO INTERVIEW RESPONSES[a]

PRODUCTS[b]	N	INTERVIEW RESPONSES									
		LOCAL SCHOOL DISTRICT			SBCCOE		TEACHER EDUCATION INSTITUTION		USOE		
		Administrator or Supervisor	Curriculum Specialist	Vocational Teacher	Curriculum Specialist	Program Supervisor	Curriculum Specialist	Teacher Educator	Curriculum Specialist	Program Specialist	OTHER[c]
Adaptions of already prepared .	84	6.0	9.5	32.1	26.2	10.7	7.1	6.0			
Evaluation of adapted	84	9.5	11.9	36.9	14.3	14.3	6.0				
Evaluation of distribution . .	81	13.6		12.3	22.2	43.2					
Evaluation of feedback	81	7.4	6.2	7.4	28.4	38.3	6.2				
List of already prepared . . .	83	6.0		6.0	41.0	16.9	14.5				
List of . . . . . needs	84		7.1	40.5	17.9	15.5	10.7				
List of performance	83		10.7	38.1	20.0	6.0	8.3				7.2
Newly prepared	83		10.8	14.5	31.3	8.4	14.5	7.2			6.0
Priority list of . . . . needs	82		13.4	42.7	17.1	15.9					
Results of pilot testing . . .	84			6.0	36.9	25.0	10.7	8.3			
Task analysis	80		7.5	17.5	20.0	22.5	8.8	5.0	5.0	5.0	5.0

[a]Only those individuals identified by at least 5 percent of the respondents are associated with specific products.

[b]Full titles of products may be found in question 5 of the questionnaire, Appendix C.

[c]Responses summarized in this category indicated that multiple agencies were responsible.

In the local school district, primary responsibility was generally envisioned as the responsibility of the vocational teacher. In the SBCCOE, the products were viewed as a joint responsibility of the curriculum specialist and the program supervisor. In teacher education institutions, primary responsibility was seen as belonging to the curriculum specialist rather than the teacher educator. The USOE personnel were viewed as having little responsibility in this area.

The mail and interview responses summarized in Tables 11 and 12, respectively, appear to differ in some important aspects. The major reason for this, in the opinion of the investigators, is that the number of respondents indicating "other" was reduced in interview situations.

Importance of the audiences for whom vocational education curriculum materials should be developed

In Table 13, a summary is presented of the study participants' responses when they were asked to rank by importance specified audiences for whom vocational education curriculum materials development should take place. While "learners in groups," "teachers," and "learners on self-study" were ranked one, two, and three, respectively, with only .284 difference between the extreme means. Because of this relatively small difference, it is believed that the respondents were mixed as to the importance of curriculum materials to the various audiences though 50 percent of the teacher educators ranked "teachers" as the number one audience.

TABLE 13

AUDIENCES FOR WHOM CURRICULUM MATERIALS SHOULD BE DEVELOPED

AUDIENCES	TOTAL RESPONSES			MAIL RESPONSES			INTERVIEW RESPONSES		
	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]
Learners in groups	479	1.839	1	395	1.855	1	84	1.762	1
Teachers	476	2.076	2	392	2.077	2	84	2.083	2
Learners on self-study	479	2.123	3	395	2.112	3	84	2.167	3
Other[b]	26	2.769	4	22	2.727	4	4	3.000	4

Kendall's coefficient of concordance was determined to be ineffective in this situation. However, Spearman rank correlation coefficients were calculated for each pair of rankings and found to equal 1.0 in each case.[c]

[a]The activity with the lowest mean was ranked number one, etc.

[b]Respondents listed such audiences as adult education, teacher educators, SBCCOE, special education, slow learners, low achievers, business personnel managers, and administrators.

[c]Significant at the .05 level

The relationship between the rankings was tested by computing a rho value for each possible pair of rankings. Each of these values was determined to be significant at the .05 level which indicated a positive relationship existed between the rankings.

Importance of curriculum materials development activities which should receive state funds if limited financial resources exist

Those individuals participating in the study were asked to rank by importance specific curriculum materials development activities which should receive state funds if limited state financial resources should exist. A summary of their responses is presented in Table 14.

According to the rankings provided by the respondents, activities which should receive primary consideration were "coordinate curriculum materials development efforts within the State," "conduct inservice for vocational teachers in preparing curriculum materials," and "evaluate and adapt for use in Colorado already prepared curriculum materials." On the other hand, the respondents felt less consideration should be given to "establish a task analysis" and "prepare vew curriculum materials."

Through the computation of Kendall's coefficient of concordance, W was determined to have a value of .952 which was significant at the .01 level. Because of this, the null hypothesis which stated the rankings were unrelated was rejected and the alternate hypothesis accepted. Thus, the rankings exhibited an overall agreement.

In addition, the value of rho was calculated to determine the correlation between the mail response and interview response rankings.

TABLE 14

IMPORTANCE OF CURRICULUM MATERIALS DEVELOPMENT ACTIVITIES FOR FUNDING

AGENCIES[a]	TOTAL RESPONSES			MAIL RESPONSES			INTERVIEW RESPONSES		
	N	Mean	Rank[b]	N	Mean	Rank[b]	N	Mean	Rank[b]
Coordinate curriculum materials development efforts within the State . . .	447	4.570	1	369	4.561	1	78	4.628	3
Conduct inservice for vocational teachers in preparing curriculum materials.	453	4.636	2	375	4.684	3	78	4.397	1
Evaluate and adapt for use in Colorado already prepared curriculum materials . .	442	4.645	3	363	4.657	2	79	4.570	2
Provide a comprehensive curriculum materials development effort including . .	447	5.009	4	368	5.022	4	79	5.038	4
Distribute curriculum materials	451	5.262	5	373	5.251	6	78	5.269	5
Provide vocational educators with . . . a centralized lending library	451	5.313	6	370	5.224	5	79	5.734	6
Associate with other states	447	5.823	7	370	5.810	7	77	5.896	8
Identify performance objectives	432	5.852	8	354	5.844	8	78	5.897	9
Establish a task analysis	446	6.132	9	368	6.213	9	78	5.744	7
Prepare new curriculum materials	450	6.740	10	371	6.658	10	79	7.152	10

Kendall's coefficient of concordance: $W = .952$[c]

[a]Full titles of activities may be found in question 7 of the questionnaire, Appendix C.

[b]The activity with the lowest mean was ranked number one, etc.

[c]Significant at the .01 level

The resulting value of rho was found to be significant at the .01 level and indicated that a direct relationship existed between the rankings.

The data do not, however, indicate that any of the activities should not be funded in times of limited resources. The fact that the extreme means for the ten activities ranked in Table 14 differed only 2.170 indicated to the investigators that the respondents did not clearly perceive many of the identified activities as being more important than certain other identified activities.

Among the various groups whose members responded, the following facts were considered to be of interest:

1. Regarding "associate with other states to share curriculum materials," 20.8 percent of the SBCCOE staff ranked this activity as number one while only about 11 percent of the teachers, local directors and administrators, and teacher educators so ranked this activity.

2. "Conduct inservice education for vocational teachers in preparing curriculum materials" was ranked number one by 17.3 percent of the local directors and administrators, 14.6 percent of the teachers, 12.5 percent of the SBCCOE staff, and 5.7 percent of the teacher educators.

3. "Evaluate and adapt for use in Colorado already prepared curriculum materials" was ranked as number one by 25 percent of the SBCCOE staff, approximately 13 percent of the teachers, teacher educators and local directors and administrators.

4. "Provide a comprehensive curriculum materials development effort including a task analysis, preparing materials, pilot testing, validation, distribution, and revision procedures" was ranked as number one by 42 percent of the SBCCOE staff, approximately 19 percent of the teachers and local directors and administrators, and 28 percent of the teacher educators.

Agencies which should serve as a centralized coordinating location

A summary of the responses received when the study participants were asked to rank specific agencies as to which should serve as a centralized coordinating location for a statewide curriculum materials development effort in Colorado is presented in Table 15. From the data, it was apparent that the respondents perceived that the "SBCCOE" was the agency which should perform this function whereas a "state designated local school district" was perceived as being an agency least suitable to perform this function.

Use of the procedure for calculating Kendall's coefficient of concordance revealed a W value which was significant at the .01 level. Thus, the null hypothesis was rejected and the alternate hypothesis which stated that a relationship existed was accepted.

Computation of the Spearman rank correlation coefficient between the mail response and interview response rankings resulted in a rho value of .829 which was significant at the .05 level. This indicated that the rankings of the two groups were positively associated.

It was interesting to note that while approximately 57 percent of the vocational teachers and local directors and administrators ranked the SBCCOE as number one, only about 22 percent of the teacher educators and the SBCCOE staff ranked the SBCCOE an number one. On the other hand, "state designated teacher education institutions" was ranked number one by 75 percent of the SBCCOE staff, by 64.7 percent of the teacher educators, by 22.7 percent of the vocational teachers, and by 24.9 percent of the local directors and administrators.

TABLE 15

AGENCY WHICH SHOULD SERVE AS A CENTRALIZED COORDINATING LOCATION

AGENCIES	TOTAL RESPONSES			MAIL RESPONSES			INTERVIEW RESPONSES		
	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]
SBCCOE	450	2.102	1	370	2.095	1	80	2.150	1
Other	12	2.583	2	12	2.583	2			
State designated teacher education institutions	447	2.814	3	368	2.817	3	79	2.797	2
State designated board of cooperative services (BOCS)	434	3.618	4	358	3.563	4	76	3.868	5
State designated area vocational school	431	3.638	5	354	3.632	5	77	3.636	3
State designated community or junior college	430	3.853	6	354	3.892	6	76	3.697	4
State designated local school district	431	4.712	7	355	4.706	7	76	4.737	6

Kendall's coefficient of concordance: $W = .924$[b]

[a]The agency with the lowest mean was ranked number one, etc.

[b]Significant at the .01 level

CONCLUSIONS

The following conclusions were reached after considering the findings presented in this study:

1. Information provided by at least eighteen head vocational educators in state-level political entities would be of value in planning for systematic state-level curriculum materials development activities.

2. Any curriculum materials development system developed should include consideration of setting priorities, establishing funding guidelines, providing competency-based materials, and providing for an individualized education.

3. The responsibility for vocational education curriculum materials development in Colorado should be a joint responsibility, primarily shared by the local school districts or institutions and the SBCCOE.

4. Those activities or services funded by the SBCCOE which had the most direct influence on learners enrolled in local vocational education programs and which tended to provide a source of funding for the local school district or institution were considered to be of greatest importance.

5. Activities or services funded by the SBCCOE which were directly related to only a limited number of local school districts or institutions tended to be considered of lesser importance.

6. Local vocational directors and local administrators other than vocational directors considered the activities or services funded by SBCCOE which had the most direct influence on learners enrolled in local vocational education programs and which tended to provide a source of funding for the local school district or institution to be of greater importance than did the other respondent groups.

7. Curriculum materials development activities considered to be important in Colorado were:
   a. Adapting already prepared curriculum materials for use in Colorado
   b. Distributing curriculum materials to educators
   c. Evaluating curriculum materials
   d. Facilitating feedback for use in revising curriculum materials

e. Identifying already prepared curriculum materials
f. Identifying performance objectives
g. Pilot testing adopted materials
h. Preparing a list of curriculum materials needs
i. Preparing a priority list of curriculum needs
j. Preparing a task analysis of an occupation
k. Preparing new curriculum materials

8. Those curriculum materials development activities which tend to make materials more readily accessible to local program personnel were considered to be of the greatest importance by the respondents. For example, identifying and adapting already prepared materials were considered to be of great importance while preparing new materials was considered to be of lesser importance.

9. When determining the types of curriculum materials to be made available in Colorado, consideration should be given to a combination of "audiovisual materials," "printed materials for teachers," and "printed materials for learners."

10. The preparation of curriculum materials in Colorado should be a joint responsibility between two agencies, the local school district and the SBCCOE with the aid of teacher education institutions.

11. In the local school district, the vocational teacher appears to be individual with the primary responsibility for the development of curriculum materials.

12. In the SBCCOE, the responsibility for the development of curriculum materials seems to be shared by the curriculum specialist and the program supervisor.

13. At the teacher education institution, the curriculum specialist is perceived as the individual responsible for the development of curriculum materials.

14. Since the findings do not really differentiate between the three audiences which were specified--"learners in groups," "teachers," and "learners on self-study," factors other than the type of audience will actually determine the audience for which particular curriculum materials are developed.

15. If curriculum materials are to be developed and the audience is a primary consideration, the materials should be oriented toward "learners in groups."

16. If a situation develops in which limited state financial resources exist, preference should be given to the funding of those curriculum materials development activities which would have a direct relationship on local vocational education programs.

17. The SBCCOE was perceived as the agency which should serve as the centralized coordinating location for a statewide curriculum materials development effort in Colorado.

18. Though the respondents believed the SBCCOE should assume responsibility for identifying already prepared curriculum materials and distributing curriculum materials, they did not perceive a centralized lending library as playing a major role in these activities.

19. Curriculum materials development is considered as having a high priority among SBCCOE funded vocational education activities and services.

20. Respondents to the mail questionnaire and the interview questionnaire provided closely related responses.

RECOMMENDATIONS

Based upon the findings and conclusions of this study, the following recommendations were proposed:

1. Curriculum materials development should be considered as an important segment of Colorado's vocational education effort.

2. A systematic approach to curriculum materials development should be initiated.

3. The components of such a system should reflect the activities identified in conclusion number seven.

4. The State Board for Community Colleges and Occupational Education should serve in a leadership role in this activity.

5. In conducting vocational education curriculum materials development activities, representatives of the local school districts, the teacher education institutions and the SBCCOE should be involved.

6. Information from other state-level political entities should be used in planning a vocational education curriculum materials development effort for Colorado.

7. Inservice education should be provided to all individuals who will participate in the curriculum materials development system.

IMPLICATIONS

As a result of the findings, conclusions, and recommendations presented earlier in this report, certain implications were believed to be important. It was anticipated that these implications would be of value to those individuals responsible for vocational education curriculum materials development.

First, additional state-level support should be made available to the curriculum materials development effort. The process is viewed as being important and deserving of additional attention.

Second, vocational educators must be organized into a cohesive support group to facilitate the conduct of curriculum materials development activities. The need for such materials is perceived at the local level but there appears to be a lack of recognition of state-level concerns such as the validity of the materials or the value of a feedback mechanism.

Third, the information presented as the result of this study should not serve as the only basis for planning Colorado's curriculum

materials development effort. The perceptions of the respondents generally reflect a "traditional" education setting which may not reflect current trends or advances being made in the field of curriculum.

Fourth, a curriculum materials development system should be designed and implemented at all levels of vocational education. Such a system should include provisions to complete ongoing activities and to initiate others on a priority basis so as to make best use of often limited resources.

Fifth, education related to curriculum materials development is and will continue to be important. Such instruction should receive a position of importance in both preservice and inservice teacher education programs.

APPENDIX A

LETTERS TO HEAD VOCATIONAL EDUCATORS

Department of Vocational Education

Colorado State University
Fort Collins, Colorado
80523

September 23, 1975

The Division of Occupational Education, Colorado State Board for Community Colleges and Occupational Education, in an attempt to facilitate statewide vocational education curriculum development efforts, has requested that the Department of Vocational Education, Colorado State University, develop a proposed long-range state plan for curriculum development.

If your state, through vocational education, has a plan or guidelines for curriculum development activities, would you share it with us by forwarding a copy? It would also be appreciated if you would indicate the developmental process used in formulating your state plan.

If your state has no plan or guidelines, we would like information as to how your state directs resources to curriculum development; what system is used to reduce duplication of curriculum development efforts; how your state promotes efficient and effective utilization of resources; and how your state promotes accessibility of curriculum materials which have been developed.

We wish to thank you for your efforts in assisting in the development of our proposed state plan and will be happy to forward a copy to you upon its completion.

Sincerely,

Ray W. Heley
Principal Investigator
Curriculum Materials Development

tmb

CSU

Department of Vocational Education

Colorado State University
Fort Collins, Colorado
80523

October 14, 1975

You may not have received an earlier request for your state's guidelines for curriculum development activities. Therefore, this request is being directed to you.

The Division of Occupational Education, Colorado State Board for Community Colleges and Occupational Education, in an attempt to facilitate statewide vocational education curriculum development efforts, has requested that the Department of Vocational Education, Colorado State University, develop a proposed long-range plan for curriculum development.

If your state, through vocational education, has a plan or guidelines for curriculum development activities, would you share it with us by forwarding a copy? It would also be appreciated if you would indicate the developmental process used in formulating your state plan.

If your state has no plan or guidelines, we would like information as to how your state directs resources to curriculum development; reduces duplication of curriculum efforts; promotes efficient and effective utilization of resources; and promotes accessibility of curriculum materials which have been developed.

We wish to thank you for your efforts in assisting in the development of our proposed state plan and will be happy to forward a copy to you upon its completion.

Sincerely,

Ray W. Heley
Principal Investigator
Curriculum Materials Development

CSU

Department of Vocational Education

Colorado State University
Fort Collins, Colorado
80523

October 30, 1975

An earlier request was sent to you for information regarding your state's curriculum materials development activities. The Division of Occupational Education, Colorado State Board for Community Colleges and Occupational Education has requested that the Department of Vocational Education, Colorado State University Develop a proposed long-range plan for curriculum development. Before proposing this plan we are attempting to learn what procedures are followed in other states.

If your state, through vocational education, has a plan or guidelines for curriculum development activities, would you share it with us by forwarding a copy? It would also be appreciated if you would indicate the developmental process used in formulating your state plan.

If your state has no plan or guidelines, we would like information as to how your state directs resources to curriculum development; reduces duplication of curriculum efforts; promotes efficient and effective utilization of resources; and promotes accessibility of curriculum materials which have been developed.

We wish to thank you for your efforts in assisting in the development of our proposed state plan and will be happy to forward a copy to you upon its completion.

If you have already forwarded materials, please disregard this request.

Sincerely,

Ray W. Heley
Principal Investigator
Curriculum Materials Development

APPENDIX B

ADVISORY COMMITTEE INFORMATION

CURRICULUM MATERIALS DEVELOPMENT

ADVISORY COMMITTEE

DR. LOUISE KELLER, Prof.
Rm. 511, McKee Hall
College of Education
University of Northern Colorado
Greeley, CO 80639
Phone: 351-2941
Teacher Educator

DR. MILTON E. LARSON, Prof.
Dept. of Vocational Education
Colorado State University
201 Humanities Bldg.
Ft. Collins, CO 80523
Phone: 491-6857
Teacher Educator

MR. PETER PANDO, Co-owner
Phyllis' Draperies
1020 S. College Ave.
Ft. Collins, CO 80521
Phone: 484-7158
Parent/Business and Industry

MR. ROBERT PERRY, Manager
Special Services Unit
SBCCOE
207 State Services Bldg.
Denver, CO 80202
Phone: 892-3111
State Staff

MR. RAYMOND RODDA, Instructor
Roaring Forks Vocational Center
Glenwood Springs, CO 81601
Phone: 945-5864
Trade and Industrial Education

DR. ROBERT TAYLOR, Prof.
College of Education
University of Colorado
Boulder, CO 80302
Phone: 492-6937
Association of Supervision and
Curriculum Development

MR. FRED WELLS
Director of Training
Mountain States Telephone Co.
931 14th St.
Denver, CO 80202
Phone: 624-4795
Business and Industry
American Society of Training
Directors

MS. RENEE WERNER
1681 S. Allison
Lakewood, CO 80226
Phone: 985-1747
Student
President, State HERO Program

MR. DOUGLAS WHITTEN, Associate Principal
Warren Occupational-Technical Center
13300 W. Ellsworth
Golden, CO 80302
Phone: 988-7470
School Administrator

Department of Vocational Education

Colorado State University
Fort Collins, Colorado
80523

October 7, 1975

Dear

The Division of Occupational Education, Colorado State Board for Community Colleges and Occupational Education, in an attempt to facilitate statewide vocational education curriculum development efforts, has requested that the Department of Vocational Education, Colorado State University, develop a proposed long-range state plan for curriculum development.

A curriculum materials development advisory committee is being appointed to aid in giving direction to the study and to facilitate communications with various groups who have a close association with vocational education curriculum. Because of your professional and personal commitment to vocational education, I would like to appoint you to serve on the committee. It is requested that your acceptance to serve be sent to me at the above address.

The first meeting of the committee is scheduled for 11:00 a.m. Tuesday, October 21, 1975, at the Warren Occupational Technical Center, 13300 West Elsworth, Golden, Colorado. It is anticipated that adjournment will be about 4:00 p.m. Expenses including travel to and from meetings and lodging and meals will be reimbursed to committee members.

Sincerely,

Dr. B. H. Anderson, Head
Vocational Education

tmb

APPENDIX C

QUESTIONNAIRE

LOCAL VOCATIONAL ADMINISTRATORS' AND TEACHERS' PERCEPTION OF CURRICULUM MATERIALS DEVELOPMENT

Sponsored by the Colorado State Board
for Community Colleges and Occupational Education

April 15, 1976

Dear Vocational Educator:

A few months ago the State Board for Community Colleges and Occupational Education, in an attempt to facilitate statewide vocational education curriculum materials development, requested that the Department of Vocational Education, Colorado State University develop a proposed long-range plan for curriculum materials development for possible State Board adoption.

A review has been made of the vocational education curriculum materials development processes in other states, private industry, and the military. A week-long workshop was held November 17-21, 1975 for thirty-eight Colorado vocational educators on a systems approach to curriculum materials development. An active nine-member committee has been advising project personnel on the preparation of the proposed long-range plan.

This questionnaire has been designed to solicit vocational administrators' and teachers' perceptions on the role of the State Board for Community Colleges and Occupational Education in curriculum materials development in relation to other SBCCOE activities or services, and for planning effective utilization of state resources through a systematic approach to the curriculum materials development effort in Colorado.

Vocational education administrators and randomly selected vocational teachers are being asked to provide input into developing a proposed long-range plan for curriculum materials development. You will find that your questionnaire has been assigned a number. This is for follow-up procedures only. No respondent will be identified during the tabulation or in the final report.

Please complete the questionnaire prior to April 28, 1976 and mail it in the enclosed envelope (no postage necessary). Thank you for your cooperation and willingness to participate in this effort.

Yours very truly,

Robert L. Perry, Manager
Special Services Unit
State Board for Community Colleges
and Occupational Education

Ray W. Heley, Investigator
Curriculum Materials Development
Colorado State University

DEFINITIONS

1. Curriculum - a general over-all plan of the content or specific materials of instruction that a school offers the vocational learner by way of qualifying the learner for entrance into or up-grading in an occupation.

2. Curriculum materials - refers to all the teaching-learning materials and devices used by the educator and/or learner to facilitate effectively and efficiently the skills and technical knowledges and technologies required as a worker to successfully perform in the occupation(s) for which preparation is provided.

3. Curriculum materials development - refers to the systematic procedure for analyzing an occupation and setting priorities; adapting already available materials or preparing new materials; validating materials; making materials available to educators and/or learners; and allowing for feedback.

4. Diffusion - refers to a procedure of preparing educators to effectively utilize specific curriculum materials.

5. Dissemination - refers to the providing of curriculum materials to educators without a planned effort to familiarize them with the content or intended use.

6. Distribution - the process of making the materials available to learners and/or teachers, including dissemination and diffusion.

7. Evaluation - the process of comparing something (such as job performance or instructional materials, etc.) with prescribed or desired criteria to determine the degree of match.

8. Feedback - the process of permitting changes in order to revise the product.

9. Learner - refers to an individual for whom instruction is provided.

10. Performance objective - a statement of instructional goals expressed in observable and measureable terms.

11. Pilot testing - refers to the testing of curriculum materials as a whole under normal instructional conditions in order to adjust before general dissemination or diffusion.

12. Priority - a preferential rating, based on merit which includes needs, financial and human resources, and feasibility.

13. Self-study - refers to an instruction program designed so that the learners can proceed through the materials and learn at their own individual rate.

14. Task analysis - an examination of task content and context in business, industry, and agriculture to determine appropriate tasks for the development of objectives, criterion-referenced measures, and quality control within a program of vocational-technical education.

PERCEPTION OF CURRICULUM MATERIALS DEVELOPMENT

Instructions:
1. Where SBCCOE appears in this questionnaire, reference is to the State Board for Community Colleges and Occupational Education.
2. It is suggested that you review the definitions on page 2 prior to completing this questionnaire, then complete each question as indicated.
3. Comments are encouraged, and a space is provided at the end of each question.

1. Rank the agencies listed below as to the responsibility each should have for vocational education curriculum materials development in Colorado. The agency with the greatest responsibility should be number 1; the agency with the next greatest responsibility should be number 2, etc.

_____ a. Local school district or institution
_____ b. State Board for Community Colleges and Occupational Education (SBCCOE)
_____ c. Teacher education institutions
_____ d. United States Office of Education (USOE)
_____ e. Other (Specify) _____
_____ f. Other (Specify) _____

Comments:

2. Rank by importance the SBCCOE funding of the activities or services listed below. The activity or service with the highest importance should be ranked number 1; the activity or service with the next highest importance should be ranked number 2, etc. Rank all the activities or services.

_____ a. Adult education
_____ b. Career education
_____ c. Curriculum materials development
_____ d. Facilities planning assistance
_____ e. Job development services
_____ f. Local program equipment purchases
_____ g. Local program planning assistance
_____ h. Local program support (instructional salaries and supplies)
_____ i. Local program supervision and/or administration
_____ j. Management information services (i.e. learner follow-up)
_____ k. Research
_____ l. State program advisory committees
_____ m. State program supervision
_____ n. State sponsored inservice training and workshops
_____ o. State sponsored team review of local programs
_____ p. Teacher education services
_____ q. Vocational credentialling service
_____ r. Youth organization activities
_____ s. Other (Specify) _____
_____ t. Other (Specify) _____

Comments:

3. Indicate which of the activities listed below are important to the local school district or institution as a part of any statewide vocational education curriculum materials development effort in Colorado. Place a check ( ) in the appropriate column. In addition, rank the activities listed below as to importance to the local school district or institution. The activity with the highest importance should be ranked number 1; the activity with the next highest importance should be ranked number 2, etc. Rank all the activities.

SHOULD BE PERFORMED				
Yes	Undecided	No	ACTIVITIES	RANK
			a. Adapting already prepared curriculum materials for use in Colorado	
			b. Distributing curriculum materials to educators	
			c. Evaluating curriculum materials	
			d. Facilitating feedback for use in revising curriculum materials	
			e. Identifying already prepared curriculum materials	
			f. Identifying performance objectives	
			g. Pilot testing adopted curriculum materials	
			h. Preparing a list of curriculum materials needs	
			i. Preparing a priority list of curriculum needs	
			j. Preparing a task analysis of an occupation	
			k. Preparing new curriculum materials	
			l. Other (Specify)	
			m. Other (Specify)	

Comments:

4. Rank by importance the types of vocational education curriculum materials listed below which should be developed for use in Colorado. The type which has the highest importance should be ranked number 1; the type which has the next highest importance should be ranked number 2, etc. Rank all the types.

_____ a. Audio materials
_____ b. Audio-visual materials
_____ c. Printed materials for learners
_____ d. Printed materials for teachers
_____ e. Visual materials
_____ f. Other (Specify) _____
_____ g. Other (Specify) _____

Comments:

5. Indicate which agency and who within that agency should have primary responsibility for preparing the products listed below which could be the result of curriculum materials development. After selecting one agency, place a check ( ) in the appropriate column to indicate the individual. Assume all listed products are to be prepared.

PRODUCTS	LOCAL SCHOOL DISTRICT				SBCCOE			TEACHER EDUCATION INSTITUTION			USOE			OTHER (SPECIFY)
	Administrator or Supervisor	Curriculum Specialist	Vocational Teacher	Other (Specify)	Curriculum Specialist	Program Supervisor	Other (Specify)	Curriculum Specialist	Teacher Educator	Other (Specify)	Curriculum Specialist	Program Specialist	Other (Specify)	Other (Specify)
a. Adaptions of already prepared curriculum materials for use in Colorado														
b. Evaluation of adopted curriculum materials														
c. Evaluation of distribution process														
d. Evaluation of feedback process														
e. List of already prepared curriculum materials														
f. List of curriculum materials needs														
g. List of performance objectives														
h. Newly prepared curriculum materials														
i. Priority list of curriculum materials needs														
j. Results of pilot testing of adopted curriculum materials														
k. Task analysis of an occupation														
l. Other (Specify)														
m. Other (Specify)														

Comments:

6. Rank by importance the audiences listed below for whom vocational education curriculum materials development should take place. The audience with the highest importance should be ranked number 1; the audience with the next highest importance should be ranked number 2, etc. Rank all audiences.

____ a. Learners in groups

____ b. Learners on self-study

____ c. Teachers

____ d. Other (Specify) _____

____ e. Other (Specify) _____

Comments:

7. Rank by importance the order in which the activity listed below should be state funded if limited state financial resources exist. The activity with the highest importance should be ranked number 1; the activity with the next highest importance should be ranked number 2, etc. Rank all the activities.

_____ a. Associate with other states to share curriculum materials

_____ b. Conduct inservice education for vocational teachers in preparing curriculum materials

_____ c. Coordinate curriculum materials development efforts within the state

_____ d. Distribute curriculum materials by dissemination and/or diffusion to vocational educators

_____ e. Establish a task analysis of an occupation to serve as a base for a local school to develop curriculum materials

_____ f. Evaluate and adapt for use in Colorado already prepared curriculum materials

_____ g. Identify performance objectives within an occupation(s) to serve as a base for a local school to develop curriculum materials

_____ h. Provide a comprehensive curriculum materials development effort including a task analysis, preparing materials, pilot-testing, validation, distribution, and revision procedures

_____ i. Provide vocational educators with curriculum materials through a centralized lending library

_____ j. Prepare new curriculum materials for use in Colorado

Comments:

8. Rank the agencies listed below as to which should serve as a centralized coordinating location for a statewide curriculum materials development effort in Colorado. The agency selected as the first choice should be ranked number 1; the agency selected as the next choice should be ranked number 2, etc. Rank all the agencies.

_____ a. SBCCOE

_____ b. State designated area vocational school

_____ c. State designated Board of Cooperative Services (BOCS)

_____ d. State designated community or junior college

_____ e. State designated local school district

_____ f. State designated teacher education institution

_____ g. Other (Specify) _____

_____ h. Other (Specify) _____

Comments:

Assigned number _____

LOCAL VOCATIONAL ADMINISTRATORS' AND TEACHERS'

PERCEPTION OF CURRICULUM MATERIALS DEVELOPMENT

April 30, 1976

Dear Vocational Educator:

On April 16, 1976 you were mailed a questionnaire which was designed to solicit vocational administrators' and teachers' perceptions on the role of the State Board for Community Colleges and Occupational Education in curriculum materials development.

No response has been received from you. Not all vocational educators were sent questionnaires, only those who were randomly selected, like yourself, will have an opportunity to respond.

Please complete the questionnaire as soon as possible and mail it in the envelope (no postage necessary) which was enclosed.

Sincerely

Ray W Heley

Ray W. Heley, Principal Investigator
Curriculum Materials Development

RWH/ld

If you have already returned the questionnaire, please disregard this letter.

LOCAL VOCATIONAL ADMINISTRATORS' AND TEACHERS'

PERCEPTION OF CURRICULUM MATERIALS DEVELOPMENT

May 14, 1976

Dear Vocational Educator:

On April 16, 1976 you were mailed a questionnaire which was designed to solicit vocational administrators' and teachers' perceptions on the role of the State Board for Community Colleges and Occupational Education in curriculum materials development. A follow-up letter was sent to you April 30, 1976. A reply has not been received.

Since we have requested responses from a select group, it is imperative that we hear from you. If you have misplaced the questionnaire, please call 491-7182 in Fort Collins to receive an additional copy.

Sincerely,

Ray W. Neley

Ray W. Neley, Principal Investigator
Curriculum Materials Development

RWH/ld

If you have already returned the questionnaire, please disregard this letter.

Department of Vocational Education

Colorado State University
Fort Collins, Colorado
80523

For several months a statewide advisory committee has been working with a project staff to develop a State Plan for Curriculum Materials Development in Vocational Education for Colorado. The purpose of the plan would be to direct resources in curriculum materials development; to reduce duplication of curriculum efforts; to promote efficient and effective utilization of resources; and to promote accessibility of curriculum materials which have been developed.

In preparing a proposed plan, it is most desirous to have vocational teachers and administrators give their perceptions of the curriculum materials development process. The advisory committee has recommended that a group of vocational educators be mailed a questionnaire and another group be interviewed. Through a random sampling you were selected to be interviewed.

It is anticipated that I will be in your area on _____ _____, and would like to interview you at_____ in your office or school. Since scheduling interviews with almost one hundred vocational educators from all areas of the state is a real challenge, it is hoped that the date and time will be satisfactory with you. If the interview is impossible on that date, please write to let me know, using the enclosed envelope (no postage necessary).

Sincerely,

Ray W Heley

Ray W. Heley, Principal Investigator
Curriculum Materials Development

VOCATIONAL EDUCATORS' PERCEPTIONS

OF

CURRICULUM MATERIALS DEVELOPMENT

FINAL REPORT

ADDENDUM

Prepared by

Wiley B. Lewis

Curriculum Materials Service
Department of Vocational Education
College of Professional Studies
Colorado State University
Fort Collins, Colorado 80523

for the

State Board for Community Colleges and Occupational Education
200 State Services Building
1525 Sherman Street
Denver, Colorado 80203

August 31, 1976

Information presented in this Addendum was organized to permit the reader to gain further insight relative to the responses of each of the educator groups surveyed. No effort was made to discuss variations in the responses of the various groups as such variations were readily discernible in the included tables.

TABLE 16

AGENCIES RESPONSIBLE FOR CURRICULUM MATERIALS DEVELOPMENT

Agency	Teachers			Local Directors			Local Administrators			Teacher Educators			SBCCOE Staff		
	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]
Local School District or Institution	237	1.97	1	94	1.72	1	97	1.86	1	35	2.31	3	23	2.13	2
State Board for Community Colleges and Occupational Education	236	2.00	2	92	2.15	2	97	1.89	2	35	2.06	2	23	1.96	1
Teacher Education Institutions	228	2.42	3	87	2.43	3	96	2.65	3	34	1.94	1	22	2.23	3
United States Office of Education	213	3.63	4	86	3.85	4	86	3.79	4	30	4.10	4	19	4.00	4

Kendall's coefficient of concordance: $W = .712$[b]

[a]The agency with the lowest mean was ranked number one, etc.

[b]Significant at the .05 level

TABLE 17

IMPORTANCE OF SELECTED ACTIVITIES AND SERVICES FUNDED BY THE SBCCOE

Agency	Teachers			Local Directors			Local Administrators			Teacher Educators			SBCCOE Staff		
	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]
Adult education	223	8.94	8	88	9.51	9	97	10.48	12	34	12.65	17	19	11.68	13
Career Education	225	7.96	6	90	11.41	13	97	8.84	7	34	14.38	18	19	14.42	18
Curriculum materials development	229	5.80	2	89	6.82	4	97	6.23	4	35	5.86	3	19	10.21	11
Facilities planning assistance	227	9.11	9	86	9.63	10	97	9.57	8	35	10.77	13	19	11.89	14
Job development services	225	9.26	10	87	8.79	8	96	10.19	9	32	12.19	16	18	10.22	12
Local program equipment purchases	230	6.05	3	90	5.82	2	95	4.59	2	33	9.88	9	19	9.00	8
Local program planning assistance	224	7.22	4	88	6.25	3	96	5.38	3	35	7.51	6	19	7.95	6
Local program support (instructional salaries and supplies)	232	5.12	1	90	3.37	1	97	2.92	1	34	5.29	2	19	4.89	2
Local program supervision and/or administration	225	10.23	11	87	7.86	5	96	8.30	5	34	8.26	7	18	6.83	4
Management information services	221	12.01	17	88	9.82	11	95	11.61	13	34	10.68	12	19	9.68	10
Research	223	11.48	15	84	12.18	14	95	12.01	15	35	9.51	8	19	12.26	15
State program advisory committees	224	11.50	16	86	12.34	15	95	12.62	18	35	11.26	14	19	9.16	9
State program supervision	223	11.29	13	86	10.15	12	95	10.19	10	35	6.43	5	19	4.05	1
State sponsored inservice training and workshops	228	7.80	5	89	8.34	6	96	8.50	6	35	6.40	4	19	6.95	5
State sponsored team review of local programs	217	13.06	18	85	12.67	18	94	12.20	16	35	10.20	10	18	8.94	[illegible]
Teacher education services	225	8.17	7	87	8.53	7	97	10.29	11	35	4.83	1	19	6.58	3
Vocational credentialing service	226	11.35	14	88	12.61	17	96	11.95	14	35	10.57	11	19	12.68	17
Youth organization activities	223	11.21	12	88	12.49	16	95	12.35	17	34	11.88	15	19	12.47	16

Kendall's coefficient of concordance: W = .666[b]

[a]The activity or service with the lowest mean was ranked number one, etc.

[b]Significant at the .001 level

TABLE 18

IMPORTANCE OF SELECTED CURRICULUM MATERIALS DEVELOPMENT ACTIVITIES

Activities[a]	Teachers			Local Directors			Local Administrators			Teacher Educators			SBCCOE Staff		
	N	Mean	Rank[b]	N	Mean	Rank[b]	N	Mean	Rank[b]	N	Mean	Rank[b]	N	Mean	Rank[b]
Adapting already prepared materials	212	4.59	3	84	5.08	2	93	4.73	2	28	3.96	2	19	3.63	1
Distributing curriculum materials	213	4.51	2	84	5.24	3	95	4.54	1	31	4.97	3	20	6.05	7
Evaluating curriculum materials	220	5.21	4	84	5.92	5	92	4.91	3	31	5.48	6	18	5.00	4
Facilitating feedback	217	6.85	9	81	7.01	10	92	6.58	8	32	6.47	8	16	7.19	10
Identifying already prepared	217	4.29	1	85	4.09	1	95	5.02	4	31	3.55	1	20	4.20	3
Identifying performance objectives	212	5.75	6	84	5.70	4	92	5.91	7	29	6.07	7	18	6.00	6
Pilot testing curriculum materials	210	6.96	10	83	7.36	11	89	7.73	10	29	7.34	10	18	6.94	9
Preparing a list . . . . needs	211	5.70	5	84	6.10	6	94	5.23	5	33	5.18	5	19	5.58	5
Preparing a priority list	211	5.85	7	82	6.17	7	91	5.51	6	31	4.97	4	19	4.11	2
Preparing a task analysis	203	7.06	11	84	6.17	8	90	8.22	11	29	7.55	11	18	6.72	8
Preparing new materials	203	6.18	8	81	6.27	9	88	6.58	9	28	6.89	9	16	7.88	11

Kendall's coefficient of concordance: $W = .849$[c]

[a]Full titles of activities may be found in question 3 of the questionnaire in the Appendix.

[b]The activity with the lowest mean was ranked number one, etc.

[c]Significant at the .001 level

TABLE 19

TYPES OF VOCATIONAL EDUCATION CURRICULUM MATERIALS

Material Types	Teachers			Local Directors			Local Administrators			Teacher Educators			SBCCOE Staff		
	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]
Audio materials	228	4.13	5	91	4.26	5	95	4.25	5	33	4.27	5	19	4.16	5
Audiovisual materials	233	2.22	1	92	2.23	1	97	2.35	1	33	2.61	2	20	2.35	1
Printed materials for learners	234	2.61	3	92	2.61	3	97	2.49	2	33	2.79	3	20	3.05	3
Printed materials for teachers	234	2.51	2	91	2.47	2	97	2.52	3	33	2.12	1	20	2.70	2
Visual materials	229	3.33	4	90	3.44	4	93	3.38	4	32	3.44	4	19	3.37	4

Kendall's coefficient of concordance: $W = .928$[b]

[a]The activity with the lowest mean was ranked number one, etc.

[b]Significant at the .01 level

TABLE 20

AUDIENCES FOR WHOM CURRICULUM MATERIALS SHOULD BE DEVELOPED

Audiences	Teachers			Local Directors			Local Administrators			Teacher Educators			SBCCOE Staff		
	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]
Learners in groups	234	1.89	1	93	1.87	1	95	1.66	1	34	1.94	2	21	1.71	1
Learners on self-study	234	2.13	3	93	2.02	2	95	2.19	3	34	2.21	3	21	2.00	2
Teachers	234	2.00	2	91	2.22	3	96	2.18	2	34	1.85	1	19	2.37	3

Kendall's coefficient of concordance was found to be ineffective in determining whether a statistically significant relationship existed in this situation.

[a]The activity with the lowest mean was ranked number one, etc.

TABLE 21

IMPORTANCE OF CURRICULUM MATERIALS DEVELOPMENT ACTIVITIES FOR FUNDING

Agencies[a]	Teachers			Local Directors			Local Administrators			Teacher Educators			SBCCOE Staff		
	N	Mean	Rank[b]	N	Mean	Rank[b]	N	Mean	Rank[b]	N	Mean	Rank[b]	N	Mean	Rank[b]
Associate with other states	210	5.73	7	90	5.62	7	90	6.86	10	33	5.00	5	22	4.55	2
Conduct inservice for vocational teachers	214	4.67	2	91	4.75	3	91	4.18	1	34	4.94	4	21	5.29	6
Coordinate curriculum materials development	210	4.65	1	90	4.34	1	90	4.82	5	34	4.06	2	21	4.57	3
Distribute curriculum materials	210	5.43	6	92	5.32	5	92	4.66	3	34	5.53	7	21	5.33	7
Establish a task analysis	211	6.05	9	90	5.52	6	90	6.83	9	34	6.38	9	19	6.16	8
Evaluate and adopt for use	212	4.82	3	89	4.99	4	88	4.43	2	31	3.87	1	20	3.35	1
Identify performance objectives	206	5.81	8	89	5.83	8	86	5.97	7	33	6.24	8	16	5.13	4
Provide a comprehensive curriculum materials development effort	213	4.97	4	91	4.52	2	89	5.22	6	34	5.47	6	18	6.39	9
Provide vocational educators with . . . a centralized lending library	216	5.25	5	90	6.30	9	90	4.67	4	33	4.89	3	20	5.20	5
Prepare new curriculum materials	213	6.67	10	90	7.06	10	90	6.40	8	33	7.30	10	19	6.84	10

Kendall's coefficient of concordance: $W = .639$[c]

[a]Full titles of activities may be found in question 7 of the questionnaire in the Appendix.

[b]The activity with the lowest mean was ranked number one, etc.

[c]Significant at the .001 level

TABLE 22

AGENCY WHICH SHOULD SERVE AS A CENTRALIZED COORDINATING LOCATION

Agencies	Teachers			Local Directors			Local Administrators			Teacher Educators			SBCCOE Staff		
	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]	N	Mean	Rank[a]
SBCCOE	212	2.06	1	91	2.21	1	94	1.88	1	32	2.00	2	19	3.42	3
State designated area vocational school	207	3.66	3	85	3.42	3	89	3.48	3	30	4.43	5	18	3.72	4
State designated board of cooperative services (BOCS)	206	3.72	4	86	3.85	4	89	3.33	2	33	3.33	3	18	3.33	2
State designated community or junior college	206	3.76	5	85	3.92	5	89	3.82	5	30	4.43	4	18	3.83	5
State designated local school district	208	4.55	6	86	4.49	6	87	5.00	6	30	5.47	6	18	4.89	6
State designated teacher education institution	211	3.04	2	87	2.22	2	93	3.59	4	34	1.62	1	20	1.45	1

Kendall's coefficient of concordance: $W = .803$[b]

[a]The agency with the lowest mean was ranked number one, etc.

[b]Significant at the .01 level

APPENDIX

QUESTIONNAIRE

LOCAL VOCATIONAL ADMINISTRATORS' AND TEACHERS'
PERCEPTION OF CURRICULUM MATERIALS DEVELOPMENT

Sponsored by the Colorado State Board
for Community Colleges and Occupational Education

April 16, 1976

Dear Vocational Educator:

A few months ago the State Board for Community Colleges and Occupational Education, in an attempt to facilitate statewide vocational education curriculum materials development, requested that the Department of Vocational Education, Colorado State University develop a proposed long-range plan for curriculum materials development for possible State Board adoption.

A review has been made of the vocational education curriculum materials development processes in other states, private industry, and the military. A week-long workshop was held November 17-21, 1975 for thirty-eight Colorado vocational educators on a systems approach to curriculum materials development. An active nine-member committee has been advising project personnel on the preparation of the proposed long-range plan.

This questionnaire has been designed to solicit vocational administrators' and teachers' perceptions on the role of the State Board for Community Colleges and Occupational Education in curriculum materials development in relation to other SBCCOE activities or services, and for planning effective utilization of state resources through a systematic approach to the curriculum materials development effort in Colorado.

Vocational education administrators and randomly selected vocational teachers are being asked to provide input into developing a proposed long-range plan for curriculum materials development. You will find that your questionnaire has been assigned a number. This is for follow-up procedures only. No respondent will be identified during the tabulation or in the final report.

Please complete the questionnaire prior to April 28, 1976 and mail it in the enclosed envelope (no postage necessary). Thank you for your cooperation and willingness to participate in this effort.

Yours very truly,

Robert Perry

Robert L. Perry, Manager
Special Services Unit
State Board for Community Colleges
and Occupational Education

Ray W Heley

Ray W. Heley, Investigator
Curriculum Materials Development
Colorado State University

DEFINITIONS

1. Curriculum - a general over-all plan of the content or specific materials of instruction that a school offers the vocational learner by way of qualifying the learner for entrance into or up-grading in an occupation.

2. Curriculum materials - refers to all the teaching-learning materials and devices used by the educator and/or learner to facilitate effectively and efficiently the skills and technical knowledges and technologies required as a worker to successfully perform in the occupation(s) for which preparation is provided.

3. Curriculum materials development - refers to the systematic procedure for analyzing an occupation and setting priorities; adapting already available materials or preparing new materials; validating materials; making materials available to educators and/or learners; and allowing for feedback.

4. Diffusion - refers to a procedure of preparing educators to effectively utilize specific curriculum materials.

5. Dissemination - refers to the providing of curriculum materials to educators without a planned effort to familiarize them with the content or intended use.

6. Distribution - the process of making the materials available to learners and/or teachers, including dissemination and diffusion.

7. Evaluation - the process of comparing something (such as job performance or instructional materials, etc.) with prescribed or desired criteria to determine the degree of match.

8. Feedback - the process of permitting changes in order to revise the product.

9. Learner - refers to an individual for whom instruction is provided.

10. Performance objective - a statement of instructional goals expressed in observable and measureable terms.

11. Pilot testing - refers to the testing of curriculum materials as a whole under normal instructional conditions in order to adjust before general dissemination or diffusion.

12. Priority - a preferential rating, based on merit which includes needs, financial and human resources, and feasibility.

13. Self-study - refers to an instruction program designed so that the learners can proceed through the materials and learn at their own individual rate.

14. Task analysis - an examination of task content and context in business, industry, and agriculture to determine appropriate tasks for the development of objectives, criterion-referenced measures, and quality control within a program of vocational-technical education.

PERCEPTION OF CURRICULUM MATERIALS DEVELOPMENT

Instructions:
1. Where SBCCOE appears in this questionnaire, reference is to the State Board for Community Colleges and Occupacional Education.
2. It is suggested that you review the definitions on page 2 prior to completing this questionnaire, then complete each question as indicated.
3. Comments are encouraged, and a space is provided at the end of each question.

1. Rank the agencies listed below as to the responsibility each should have for vocational education curriculum materials development in Colorado. The agency with the greatest responsibility should be number 1; the agency with the next greatest responsibility should be number 2, etc.

_____ a. Local school district or institution
_____ b. State Board for Community Colleges and Occupational Education (SBCCOE)
_____ c. Teacher education institutions
_____ d. United States Office of Education (USOE)
_____ e. Other (Specify) _____
_____ f. Other (Specify) _____

Comments:

2. Rank by importance the SBCCOE funding of the activities or services listed below. The activity or service with the highest importance should be ranked number 1; the activity or service with the next highest importance should be ranked number 2, etc. Rank all the activities or services.

_____ a. Adult education
_____ b. Career education
_____ c. Curriculum materials development
_____ d. Facilities planning assistance
_____ e. Job development services
_____ f. Local program equipment purchases
_____ g. Local program planning assistance
_____ h. Local program support (instructional salaries and supplies)
_____ i. Local program supervision and/or administration
_____ j. Management information services (i.e. learner follow-up)
_____ k. Research
_____ l. State program advisory committees
_____ m. State program supervision
_____ n. State sponsored inservice training and workshops
_____ o. State sponsored team review of local programs
_____ p. Teacher education services
_____ q. Vocational credentialling service
_____ r. Youth organization activities
_____ s. Other (Specify) _____
_____ t. Other (Specify) _____

Comments:

3. Indicate which of the activities listed below are important to the local school district or institution as a part of any statewide vocational education curriculum materials development effort in Colorado. Place a check ( ) in the appropriate column. In addition, rank the activities listed below as to importance to the local school district or institution. The activity with the highest importance should be ranked number 1; the activity with the next highest importance should be ranked number 2, etc. Rank all the activities.

SHOULD BE PERFORMED				
Yes	Undecided	No	ACTIVITIES	RANK
			a. Adapting already prepared curriculum materials for use in Colorado	
			b. Distributing curriculum materials to educators	
			c. Evaluating curriculum materials	
			d. Facilitating feedback for use in revising curriculum materials	
			e. Identifying already prepared curriculum materials	
			f. Identifying performance objectives	
			g. Pilot testing adopted curriculum materials	
			h. Preparing a list of curriculum materials needs	
			i. Preparing a priority list of curriculum needs	
			j. Preparing a task analysis of an occupation	
			k. Preparing new curriculum materials	
			l. Other (Specify)	
			m. Other (Specify)	

Comments:

4. Rank by importance the types of vocational education curriculum materials listed below which should be developed for use in Colorado. The type which has the highest importance should be ranked number 1; the type which has the next highest importance should be ranked number 2, etc. Rank all the types.

_____ a. Audio materials

_____ b. Audio-visual materials

_____ c. Printed materials for learners

_____ d. Printed materials for teachers

_____ e. Visual materials

_____ f. Other (Specify) _____

_____ g. Other (Specify) _____

Comments:

5. Indicate which agency and who within that agency should have primary responsibility for preparing the products listed below which could be the result of curriculum materials development. After selecting one agency, place a check ( ) in the appropriate column to indicate the individual. Assume all listed products are to be prepared.

PRODUCTS	LOCAL SCHOOL DISTRICT				SBCCOE			TEACHER EDUCATION INSTITUTION			USOE			OTHER (SPECIFY)
	Administrator or Supervisor	Curriculum Specialist	Vocational Teacher	Other (Specify)	Curriculum Specialist	Program Supervisor	Other (Specify)	Curriculum Specialist	Teacher Educator	Other (Specify)	Curriculum Specialist	Program Specialist	Other (Specify)	Other (Specify)
a. Adaptions of already prepared curriculum materials for use in Colorado														
b. Evaluation of adopted curriculum materials														
c. Evaluation of distribution process														
d. Evaluation of feedback process														
e. List of already prepared curriculum materials														
f. List of curriculum materials needs														
g. List of performance objectives														
h. Newly prepared curriculum materials														
i. Priority list of curriculum materials needs														
j. Results of pilot testing of adopted curriculum materials														
k. Task analysis of an occupation														
l. Other (Specify)														
m. Other (Specify)														

Comments:

6. Rank by importance the audiences listed below for whom vocational education curriculum materials development should take place. The audience with the highest importance should be ranked number 1; the audience with the next highest importance should be ranked number 2, etc. Rank all audiences.

_____ a. Learners in groups

_____ b. Learners on self-study

_____ c. Teachers

_____ d. Other (Specify) _____

_____ e. Other (Specify) _____

Comments:

7. Rank by importance the order in which the activity listed below should be state funded if limited state financial resources exist. The activity with the highest importance should be ranked number 1; the activity with the next highest importance should be ranked number 2, etc. Rank all the activities.

_____ a. Associate with other states to share curriculum materials

_____ b. Conduct inservice education for vocational teachers in preparing curriculum materials

_____ c. Coordinate curriculum materials development efforts within the state

_____ d. Distribute curriculum materials by dissemination and/or diffusion to vocational educators

_____ e. Establish a task analysis of an occupation to serve as a base for a local school to develop curriculum materials

_____ f. Evaluate and adapt for use in Colorado already prepared curriculum materials

_____ g. Identify performance objectives within an occupation(s) to serve as a base for a local school to develop curriculum materials

_____ h. Provide a comprehensive curriculum materials development effort including a task analysis, preparing materials, pilot-testing, validation, distribution, and revision procedures

_____ i. Provide vocational educators with curriculum materials through a centralized lending library

_____ j. Prepare new curriculum materials for use in Colorado

Comments:

8. Rank the agencies listed below as to which should serve as a centralized coordinating location for a statewide curriculum materials development effort in Colorado. The agency selected as the first choice should be ranked number 1; the agency selected as the next choice should be ranked number 2, etc. Rank all the agencies.

_____ a. SBCCOE

_____ b. State designated area vocational school

_____ c. State designated Board of Cooperative Services (BOCS)

_____ d. State designated community or junior college

_____ e. State designated local school district

_____ f. State designated teacher education institution

_____ g. Other (Specify) _____

_____ h. Other (Specify) _____

Comments:

Assigned number _____